

AF/1771
JFW

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In Re Application of: Fridtjov JOHANSEN

Application No.: 09/746,560

Filed: December 26, 2000

For: ENVIRONMENTALLY FRIENDLY INSULATING MATERIAL...

JUN 07 2004

O I P E JC177
P A T E N T & T R A D E M A R K O F F I C E

Art Unit: 1771

Examiner: J. Pierce

Washington, D.C.

Atty.'s Docket: JOHANSEN=3

Date: ~~January 28, 2004~~ June 7, 2004

Confirmation No.: 1686

Customer Window Mail Stop Appeal Brief - Patents

U.S. Patent and Trademark Office
2011 South Crystal Plaza
Crystal Plaza Two, Lobby, Room 1B03
THE COMMISSIONER OF PATENTS AND TRADEMARKS
Arlington, VA 22202

Sir:

Transmitted herewith is a [X] REPLY BRIEF ON BEHALF OF APPELLANT in triplicate in the above-identified application.

[] Small entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted
 [] A verified statement to establish small entity status under 37 CFR 1.9 and 1.27 is enclosed.
 [✓] No fee is necessary.

The fee has been calculated as shown below:

	(Col. 1) CLAIMS REMAINING AFTER AMENDMENT	(Col. 2)	(Col. 3) HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA EQUALS
TOTAL	*	MINUS	** 20	0
INDEP.	*	MINUS	*** 3	0
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM				

SMALL ENTITY		OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE
x 9	\$	x 18	\$
x 43	\$	x 86	\$
+ 145	\$	+ 290	\$
ADDITIONAL FEE TOTAL		TOTAL	

* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.
 ** If the "Highest Number Previously Paid for" IN THIS SPACE is less than 20, write "20" in this space.
 *** If the "Highest Number Previously Paid for" IN THIS SPACE is less than 3, write "3" in this space.

The "Highest Number Previously Paid For" (total or independent) is the highest number found from the equivalent box in Col. 1 of a prior amendment of the number of claims originally filed.

[XX] Conditional Petition for Extension of Time

If any extension of time for a response is required, applicant requests that this be considered a petition therefor.

[] It is hereby petitioned for an extension of time in accordance with 37 CFR 1.136(a). The appropriate fee required by 37 CFR 1.17 is calculated as shown below:

Small Entity

Response Filed Within

[] First - \$ 55.00
 [] Second - \$ 210.00
 [] Third - \$ 475.00
 [] Fourth - \$ 740.00

Month After Time Period Set

Other Than Small Entity

Response Filed Within

[] First - \$ 110.00
 [] Second - \$ 420.00
 [] Third - \$ 950.00
 [] Fourth - \$ 1480.00

Month After Time Period Set

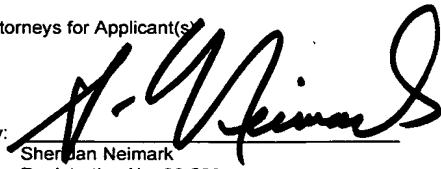
[] Less fees (\$_____) already paid for ____ month(s) extension of time on _____.

[] Credit Card Payment Form, PTO-2038, is attached, authorizing payment in the amount of \$_____.

[XX] The Commissioner is hereby authorized and requested to charge any additional fees which may be required in connection with this application or credit any overpayment to Deposit Account No. 02-4035. This authorization and request is not limited to payment of all fees associated with this communication, including any Extension of Time fee, not covered by check or specific authorization, but is also intended to include all fees for the presentation of extra claims under 37 CFR §1.16 and all patent processing fees under 37 CFR §1.17 throughout the prosecution of the case. This blanket authorization does not include patent issue fees under 37 CFR §1.18.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



ATTY.'S DOCKET: JOHANSEN=3

re Application of:) Art Unit: 1771
Fridtjov JOHANSEN) Examiner: J. R. Pierce
Appln. No.: 09/746,560) Washington, D.C.
Date Filed: December 26, 2000) Confirmation No. 1686
For: ENVIRONMENTALLY FRIENDLY) June 7, 2004
COMPATIBLE INSULATING...) MONDAY

REPLY BRIEF ON BEHALF OF APPELLANT

Customer Window, Mail Stop Appeal Brief-Patents
Honorable Commissioner for Patents
U.S. Patent and Trademark Office
2011 South Clark Place
Crystal Plaza Two, Lobby, Room 1B03
Arlington, Virginia 22202

Sir:

This is a Reply Brief under 37 CFR 1.193(b)(1) in response to the Examiner's Answer mailed April 6, 2004, and is submitted herewith in triplicate.

First, a typographical error has been found in Appellant's main Brief, and a corrected version appears below.

The last sentence of the first full paragraph on page 4 of Appellant's main Brief should read as follows (corrections underlined):

In other words, the inventive idea is the conversion of a waste material into a useful product. In addition to solving a waste problem, the claimed product obtains the same quality and performance, but is cheaper to manufacture and significantly more healthy for the personnel handling it and the ~~habitants~~ leaving inhabitants living in the buildings that are isolated by the product than the present corresponding type of products which at least in Europe are of glass wool or rock wool.

Appellant regrets any inconvenience caused.

Appellant notes that the examiners agree that the Summary of Invention contained in appellant's Brief "is correct". Significantly, the examiners accept "as correct" the first sentence of appellant's Summary Section which includes the statement that the claimed insulating panel "... is aerated (page 6, line 27) and thus is lightweight, having a very low heat conductivity (e.g. page 7, line 3), and which critically contains flax fibers (page 3, lines 10-11)."

Similarly, the examiners accept "as correct" the third sentence of the second paragraph of appellant's Summary Section which states: "The resultant mixture is then aerated, e.g. air is blasted through the mass of mixed fibers (page 6, lines 24-27)", after which the "aerated mass is then formed to a mat shape... ."

Consistent therewith, the examiners accept "as correct" the second complete paragraph on page 4 of appellant's main Brief under the "Summary Section", which paragraph states as follows: "By proceeding according to what is disclosed in the present application, one obtains an insulation mat which is mostly air and thus has a very low density. This inherently occurs by aerating the homogeneous fiber mixture."

Lastly, the examiners accept "as correct" the advantages to the present invention as pointed out in appellant's "Summary" section.

Under the heading "Grouping of Claims" at the bottom of page 2 of the Examiner's Answer", the examiners state that appellant has not explained why claims 28, 30, 31 and 32 are believed to be separately patentable. On the other hand, the examiners agree that appellant has pointed out differences in what the claims cover, referring to pages 21 and 22 of appellant's main Brief.

As regards claims 28, 30, 31 and 32, appellant has pointed out why they are separately patentable at page 13 of appellant's main Brief.

On page 4 of the Examiner's Answer, the examiners state that "flax fibers are a known type of cellulosic fiber

recognized in the insulation art as equivalents to the cellulosic fibers disclosed by Doerer et al." This position is repeated elsewhere in the Examiner's Answer, e.g. at the second paragraph on page 9.

But the fact is that flax fibers are not equivalent in the present invention to the other fibers disclosed by Doerer et al, as already pointed out in appellant's main Brief. Appellant's invention requires the presence of flax, indeed a minimum of 5% by weight as called for in claim 28, a minimum of 15% by weight as called for in claim 21, and a minimum of 20% by weight as called for in claim 32. The flax fibers cannot be replaced by wood or paper fibers, by cotton, by jute or by the other fibers mentioned by Doerer, namely sisal, coconut, kapok, rayon, acetate, triacetate, graphite, glass or mineral wool.

Flax is necessary according to the present invention in order to give the resultant mat suitable flexibility, as pointed out at page 3, lines 29-31 of appellant's specification.

If it were obvious to substitute flax from Barrable for the cellulosic fibers of Doerer in the Doerer product, respectfully and strongly denied by appellant, the resultant product would still not correspond to any of appellant's claims. Thus, such a substitution would provide 70-98% flax

and 2-30% thermoplastic, based on the disclosure of Doerer at column 4, lines 55-59. Even this would not provide the composition of appellant's mat.

Lower on page 4 of the Examiner's Answer, the examiners concede that the prior art does not show features of claims 26, 31 and 32. The examiners speculate on the obviousness of selecting particular features which are not shown, but there is no evidence to support the examiners' position. The examiners have not met their burden.

At the top of page 5 of the Examiner's Answer, the examiners further concede that the prior art does not show other features, and again speculate that what the applicant did would have been obvious, but without there being a shred of evidence as to such obviousness. Again, the examiners have a burden to establish a *prima facie* case, and they have not done so. Merely stating that something is "obvious" is a conclusion unsupported by evidence, and contrary to the law as pointed out in appellant's main Brief.

In the section of the Examiner's Answer under the heading "Response to Argument", and at the top of page 7, in response to appellant's argument that appellant's insulation mat is mostly air and thus has a very low density, this inherently occurring by aerating the homogeneous fiber

mixture, the examiners state "that density is not a claimed feature of appellant's invention." It is true that density is not **explicitly** claimed or disclosed, but is necessarily inherent in appellant's claims. Thus, claim 25 explicitly recites that the insulating mat of the present invention is formed of an aerated homogeneous mass. A standard definition for the word "aerate" is to supply with air or other gas. An aerated mass is one which has become filled or expanded with air.

This should be contrasted with the prior art. Aeration is never mentioned in either Doerer or Barrable, and indeed is totally inconsistent (indeed impossible) with Barrable.

The distinction between the present invention and Doerer should not be blurred. In the present invention, aeration is carried out. In Doerer there is no aeration. Moreover, in Doerer, considerable pressure is applied during molding, i.e. "about 200 to 1,000 psi" (column 5, line 44), clearly enough pressure to squeeze out whatever air may have been present initially. Appellant's mat is different in kind from those of Barrable and Doerer.

As all of applicant's claims depend from claim 25, they incorporate the "aerated homogeneous mass" feature of claim 25. Claim 32 adds another feature related to density,

namely that the claimed mat has a heat conductivity of about 0.036-0.037 W/mK. Such a low heat conductivity of appellant's aerated mat serves to further inherently require a low density product.

The examiners do not deny that Doerer's process will inevitably squeeze out any air (top paragraph on page 8 of Examiner's Answer), but maintain that appellant's molding step would also squeeze air from the aerated mass. But this ignores the fact that Doerer teaches the use of a minimum pressure of about 200 p.s.i., whereas (1) no such pressure is disclosed or taught in appellant's specification, and (2) appellant's product is made using very little energy as disclosed in appellant's specification at page 5, lines 13-17, thus confirming molding pressures are minimal.

Another feature of appellant's specification which makes evident the light weight of appellant's mats is the thickness of these mats as called for in claim 30. Applicant maintains that the given fiber concentrations cannot be interpreted as being anything but a highly aerated product in view of the thicknesses which are 5-15 cm. A hardwood board as disclosed by Doerer would never have a thickness as great as 5 cm, as the weight of such a board would be ridiculously great.

Appellant's product is an aerated homogeneous mass, as claimed.

In the bottom paragraph on page 8 and the top paragraph on page 9 of the Examiner's Answer, the examiners attempt to brush aside the important differences between Barrable and Doerer. However, this may not validly be done because the similarities and dissimilarities of the references relates directly to the issue of whether or not one of ordinary skill in the art at the time an applicant's invention was made would have sought to abstract features from one reference for incorporation into another. Appellant respectfully relies on the case law cited by appellant in appellant's main Brief starting at the bottom of page 27 and extending through page 28, which the examiners have not rebutted.¹

It would not have been obvious to abstract something Barrable for use in Doerer, because Barrable and Doerer are so fundamentally different from one another.

Referring back to the "Grounds of Rejection" section of the Examiner's Answer, appellant notes that for some of appellant's claims the examiners must fashion a rejection containing several (six or seven) modifications of the primary

¹ In the top paragraph on page 11 the examiners again fail to consider the references "as a whole".

reference (Doerer) to reach the claimed subject matter, these various modifications being allegedly obvious without any prior art or other evidence of such obviousness. Appellant finds it rather strange that prior art which needs to have six or seven of its features modified in order to end up with what is claimed can be considered as having been obvious.

Some of the modifications are admittedly small, at least when considered as single modifications. But these modifications must not be considered individually, as appellants' invention "as a whole" needs to be considered under Section 103, and that of course includes not only what Doerer discloses, but also what Doerer does not disclose or make obvious, including the six or seven modifications all together.

Appellant submits that a consideration of Doerer and Barrable together (even if these were not incompatible), would not have led the person of ordinary skill in the art to the present invention by making a plurality of modifications in Doerer.

The reasons why it is necessary to perform so many modifications in Doerer is evident from the fact that the Doerer product has a substantially different composition from the mat according to the present invention, and is intended for a substantially different use. By reading Doerer as a

whole, it is evident that the problem addressed by Doerer was a problem in the prior art of compressed wood fiber technology, i.e. to provide a method for making formable wood fiber formulations for making objects with extreme shapes (column 2, lines 19-27 of Doerer).

Even though Doerer provides a disclosure which attempts to generalize and expand to include mats made from a variety of fibers, the person of ordinary skill in the art reading Doerer will clearly get the impression that the Doerer technology is intended for obtaining a moldable material for making elements that replace prior art fiber board, particle board and hardboard. In this regard, Doerer relates to boards using cellulose fibers as base fibers. It is not surprising that a preferred mixture is given at column 7, lines 26-29, as containing as much as 85-87% wood fibers. The rest is 5% polyethylene resin, 3-5% shoddy and 5% phenolic resin. This mixture will form boards that have similar density, rigidity and properties to building boards such as fiber board, particle board and hardboard.

Even though both Doerer and appellant use polyester fibers, it should be clear to the person of ordinary skill in the art that there are very substantial differences in texture, density and rigidity. Doerer relates to building elements with high rigidity, comparable to synthetic wood,

whereas the present invention provides flexible mats (the long flax fibers are necessary for retaining strength in spite of flexibility) with a puffy (aerated) nature. While not all of these differences are explicit in Doerer and appellant's specification, the implications are evident to those skilled in the art.

The examiners have not met their burden. The prior art, even if obviously combinable (contrary to appellant's position) does not provide everything needed to reach appellant's claims. Repeated additional modifications are necessary, which are not taught by the prior art. Moreover, Doerer and Barrable are so fundamentally different from one another that they cannot be reasonably combined. The examiner has simply pick something out of Barrable because it is there, not because anyone skilled in the art would ever really modify Doerer in view of Barrable.

Further as regards the use of flax, it is necessary in the present invention for purposes of strength. Contrary to the examiner's position, it is not equivalent for purposes of the present invention to any of the cellulosic or other fibers disclosed by Doerer. If it were, appellant's mat could comprise only shoddy and polyester fibers, but it cannot be so constructed.

Appln. No. 09/746,560
Reply Brief On Behalf of Appellants
June 7, 2004

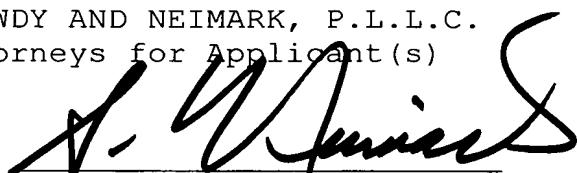
Lastly, the products of the prior art are hard and compressed. Appellant's claimed product is aerated. The claimed mat is fundamentally different from the products of the applied prior art.

Again, the examiners have not met their burden. Appellant respectfully requests reversal of the rejections.

Respectfully submitted,

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By



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